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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/799,976 | 03/12/2004 | Kristi Dhimiter Pance | 18128 | 9032 |

7590 12/20/2005

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EXAMINER

HAM, SEUNGSOOK

ART UNIT PAPER NUMBER

2817

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/799,976 | PANCE ET AL. | |
| | Examiner | Art Unit | |
| | Seungsook Ham | 2817 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 9-42 is/are pending in the application.
- 4a) Of the above claim(s) 11-30 and 32-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 10 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/18/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

It should be noted that newly amended claims 1 and 31 are now limited to the Elected Species III. Thus, some of dependent claims of 1 and 31 should be no longer dependent on claims 1 and 31.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-4, 9, 10 and 31 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-46 of US Patent Application Publication No. 2004/0051603. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are the same except semantics. For example, the subject matter of instant claim 8 ("said dielectric resonators are positioned relative to each other so that they overlap each other in a plane parallel to said longitudinal axes") is read on the copending claim

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1, "wherein said first and second resonators are alternate resonators positioned such that a field in one of said first and second resonators cross-couples directly to the other of said first and second resonators. Also, the copending claim 2 recites "the ends of each resonator are inverted...". The subject matter of instant claim 1 ("wherein said dielectric resonators are adjustable relative to each other") is read on the copending claim 28-46 ("a mounting member").

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-4, 9, 10 and 31 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9-47 and 53-83 of US Patent Application Publication No. 2004/0051602. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are the same except semantics. For example, the subject matter of instant claim 8 ("said dielectric resonators are positioned relative to each other so that they overlap each other in a plane parallel to said longitudinal axes") is read on the copending claim 9, "wherein each resonator is longitudinally inverted relative to other resonators to which its field couples"). The subject matter of instant claim 1 ("wherein said dielectric resonators are adjustable relative to each other") is read on the copending claim 21.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Amendment

The declaration under 37 CFR 1.132 filed on 10/11/05 is sufficient to overcome the rejection of claims 1-4, 9, 10 and 31 based upon Pance et al. (US '768).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Gerdine ("A Frequency-Stabilized Microwave Band-Rejection Filter Using High Dielectric Constant Resonator).

Konishi et al. (fig. 1) discloses a dielectric resonator circuit comprising: a housing 11, 13; a plurality of dielectric resonators (cylindrical resonator disks) each dielectric resonator having a longitudinal axis ('RESONATOR AXIS') defined orthogonal to a field of a fundamental mode of the dielectric resonator, TE₀₁ mode, the longitudinal axes of the dielectric resonators being substantially aligned with each other, the dielectric resonators arranged relative to each other to provide coupling therebetween d, the dielectric resonators are positioned relative to each other so that they overlap each other in a direction parallel to the longitudinal axes; and the dielectric resonators are adjustable at least along their longitudinal axes (p. 354, left column 1st paragraph, see also fig. 2, p. 355, section IV).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerdine ("A Frequency-Stabilized Microwave Band-Rejection Filter Using High Dielectric Constant Resonator) in view of Mayer (US '490) or Kishk et al. ("Conical Dielectric Resonator Antennas for Wide-Band Applications").

Gerdine does not show the dielectric resonators being conical.

Mayer (fig. 1) discloses a dielectric resonator circuit having dielectric resonators having a conical shape for inexpensive manufacturing.

Kishk et al. (fig. 1) also discloses dielectric resonators having various conical shapes.

It would have been obvious to one of ordinary skill in the art to provide conical shape dielectric resonators in the device of Gerdine for inexpensive manufacturing as taught by Mayer (col. 2, lines 23-33) or for wider bandwidth as taught by Kishk et al. (see page 473, conclusion).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerdine ("A Frequency-Stabilized Microwave Band-Rejection Filter Using High Dielectric Constant Resonator) in view of Mayer (US '490) or Kishk et al. ("Conical Dielectric Resonator Antennas for Wide-Band Applications") as applied to claim 1 above, and further in view of Tanaka (US '929).

The modified device of Gerdine does not show the dielectric resonators are conical and comprised of plurality of layers.

Tanaka (fig. 3) discloses a dielectric resonator comprised of plurality of layers and has a conical shape.

It would have been obvious to one of ordinary skill in the art to use the dielectric resonator of Tanaka as the dielectric resonators in the modified device of Gardine to suppress spurious response as taught by Tanaka (see abstract).

Claims 1-3 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdeyme ("New Direct Coupling Configuration Between $TE_{01\delta}$ Dielectric Resonator Modes") in view of De Maron et al. (US '677).

Verdeyme (fig. 2) discloses a dielectric resonator circuit comprising: a plurality of dielectric resonators, each dielectric resonator having a longitudinal axis a defined orthogonal to a field of a fundamental mode of the dielectric resonator $TE_{01\delta}$, the

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longitudinal axes of the dielectric resonators being substantially aligned each other, the dielectric resonators are adjustably coupled each other and positioned so that they overlap each other in a plane parallel to the longitudinal axis (see abstract, figs. 3 and 4).

Verdeyme does not show a housing for the dielectric resonator circuit, however, providing a housing for a resonator circuit is well known in the art. De Maron et al. (fig. 6) shows a dielectric resonator circuit disposed in a housing. Thus, it would have been obvious to one of ordinary skill in the art to provide a housing for the dielectric resonator circuit since such design technique is well known in the art as shown by De Maron et al.

Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdeyme ("New Direct Coupling Configuration Between $TE_{01\delta}$ Dielectric Resonator Modes") in view of De Maron et al. (US '677) as applied to claim 1 above, and further in view of Mayer (US '490) or Kishk et al. ("Conical Dielectric Resonator Antennas for Wide-Band Applications").

The modified device of Verdeyme does not show the dielectric resonators being conical.

Mayer (fig. 1) discloses a dielectric resonator circuit having dielectric resonators having a conical shape for inexpensive manufacturing.

Kishk et al. (fig. 1) also discloses dielectric resonators having various conical shapes.

It would have been obvious to one of ordinary skill in the art to provide conical shape dielectric resonators in the modified device of Verdeyme for inexpensive

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manufacturing as taught by Mayer (col. 2, lines 23-33) or for wider bandwidth as taught by Kishk et al. (see page 473, conclusion).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdeyme ("New Direct Coupling Configuration Between $TE_{01\delta}$ Dielectric Resonator Modes") in view of De Maron et al. (US '677) as applied to claim 1 above, and further in view of Tanaka (US '929).

The modified device of Verdeyme does not show the dielectric resonators having a conical shape and comprised of plurality of layers.

Tanaka (fig. 3) discloses a dielectric resonator comprised of plurality of layers and has a conical shape.

It would have been obvious to one of ordinary skill in the art to use the dielectric resonator of Tanaka as the dielectric resonators in the modified device of Verdeyme to suppress spurious response as taught by Tanaka (see abstract).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Delaballe et al. discloses a dielectric filter having movable dielectric resonators.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Seungsook Ham
Primary Examiner
Art Unit 2817

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